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DESCRIPTIONS OF NEW MOLLUSCA FROM THE EASTERN REGIONS,—*by*
MESSRS. G. AND H. NEVILL.

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(With Plate I).

We have already had the honor of laying before the Society two papers, containing descriptions of new Mollusca from these seas; the present one contains descriptions of 12 new species of marine shells from Ceylon, Mauritius and Pooree (Bay of Bengal), for the several very interesting species from the latter locality, we are greatly indebted to H. C. Raban, Esq., C. S., who has lately been successful in obtaining some more shells, of almost equal interest, from Chittagong. We had also described, and prepared a drawing, of a very interesting new species of *Leptoconchus*, but fortunately noticed, just in time, its description by Liénard in the number of the French Journal de Conchiliologie which we had just received; as, however, no figure was given, we have thought it desirable to take this opportunity of doing so; we have also named and described an interesting new species of *Cataulus* from Ceylon, the smallest as yet known, a new species of *Pisidium* from India and 5 new land shells from Mauritius and the Seychelles. We have also given two figures of an interesting species of *Cypricardia*, *C. spathulata*, described by Souverbie in the Jour-

nal de Conchiliologie for 1862, p. 232. Finally we have figured, and made a few further notes on two new species lately described by us in the Ceylon Asiatic Society's Proceedings.

Glauconella Andersoni, *n. sp.*, Pl. I. Fig. 13, 13*a*, 13*b*.

T. ovalis, glauca, aperta, indistincte longitudinaliter striata; spira paululum involuta; labio appendiculo minimo munito; aperiturâ ampla, antice dilatata, margine antico ovaliter arcuato, postico sub-coarctato. Long. $8\frac{1}{2}$, Diam. maj. $6\frac{1}{2}$, Alt. $3\frac{1}{2}$ m.m.

This interesting species in shape closely resembles *G. viridis*, Rang., the body of the shell is, however, considerably more involute and the colour a pale apple green; it also differs from the above, as well as from all the other described species of the genus, in the small, almost rudimentary, appendage. It is tolerably abundant on reefs at low water in the S. Province, Ceylon. Dr. Stoliczka also found it at Penang. The animal is dull greenish, mottled with brown, the eyes are sessile, very small and black; the shell is completely hidden by the meeting of the lateral expansions of the mantle, in this respect differing from *G. viridis*, in which, according to A. Adams, the shell is only partially hidden. Its mode of progression, at the time, strongly reminded one of us of that of *Omphalotropis*.

Cylichna lactuca, *n. sp.*, Pl. I. Fig. 2, 2*a*.

T. anguste cylindrica, solida, lævis, nitida, alba; anfractibus tribus, ad suturam canaliculatis; spirâ brevissima, paululum exserta, nucleo mammillato, ultimo anfractu ad medium paulo constricto, aperiturâ supra angusta, lineari, ad suturam incisa, infra modice dilatata ac sub-rotundata; labro acuto, ad medium paululum producto, labio levissime convexiusculo, paulo incrassato; columellâ plicâ unica, valida, per-obliqua instructa. Long. $8\frac{1}{2}$, Diam. $4\frac{1}{2}$ m.m. S. Province, Ceylon.

This milky-white little shell appears to be nearest allied to *Cylichna voluta*, Quoy. It also closely resembles the following, the body whorl, however, is a little more contracted in the centre, and instead of descending somewhat rapidly, it completely folds round the upper whorls; the apex is distinctly mammillated and the outer lip is not so contracted anteriorly. It also seems to be much rarer.

Cylichna involuta, *n. sp.*, Pl. I. Fig. 3, 3a.

T. cylindrica, solida, alba, lævis, nitida; anfractibus tribus, suturâ sub-canaliculata junctis, spirâ sub-conica, exserta, apice sub-mammillato; labro fere recto, tenui, labio crassiusculo, infra incurvo; columellâ uniplicata. Long $8\frac{1}{2}$, Diam. $3\frac{1}{2}$ m.

S. Province, Ceylon.—Bombay and Penang (Dr. F. Stol.).

Ringicula apicata, *n. sp.*, Pl. I. Fig. 10, 10a.

T. minuta, elongato-turrita, solidiuscula, lævis; spirâ acutissima, suturâ perdistincta; anfractibus quinis, ultimo maximo, oblongo ac ventricoso, labio truncato, medio unidentato; columellâ duabus plicis validis munita; labro incrassato, medio interne sub-denticulato, ad basin sub-truncato. Long. $2\frac{1}{2}$, Diam. $1\frac{1}{3}$ m. m.

Very rare, Pt. Louis Harbour, Mauritius.

Gibbula Holdsworthana, *n. sp.*, Pl. I. Fig. 18.

T. parva, turbinata, tenuis, cornea, sparsim irregulariter viride marmorata, ad basin dense nigro-viride punctata; anfractibus quinis, angulatis, ad suturam oblique deplanatis, indistincter biplicatis, superioribus infra carinis duabus, acutis, validis, ultimo tribus instructis; basi sub-applanata, tribus carinis sub-granulosis instructa, una valida ad marginem umbilici sita; umbilico intus spiraliter costulato; aperturâ fere circulari, labro simplici, interne distincte margaritaceo. Alt. $4\frac{1}{2}$, Diam. $3\frac{4}{5}$ m. m.

Rare; S. Province, Ceylon.

This is another small shell belonging to the same group, as the one described by us in the Society's Journal for 1869, p. 159, under the name of *G. sub-plicata*, in the present species the sculpture is more regular and the colouring more vivid, being slightly flamed with a very dark green, principally on the whorls near the apex; also closely dotted with the same on its base; the umbilicus is wider &c. The generic characters would seem to indicate an intermediate position between *Gibbula* and *Margarita*.

ROBINSONIA, nobis.

Ceylon Asiat. Soc. Proc. May, 1869.

The shells of this genus are of a *Naticoid* appearance, of a thin, delicate texture, composed of a few rapidly increasing whorls,

not umbilicated, with a simple columella, the outer lip of the aperture is not reflexed; they somewhat resemble *Amauropsis*. The genus was named after Sir Hercules Robinson, Governor of Ceylon.

R. CEYLONICA, nobis, (loc. cit.), Pl. I. Fig. 5.

This shell, from Matura in Ceylon, forms the type of the above genus, it is of globose, inflated growth, composed of four whorls, almost smooth, of a whitish colour, encircled with a very broad, chocolate belt; it would seem to be very rare. Long. 11, Diam. 10, Alt. apert. $8\frac{1}{2}$, Diam. apert. 7 m.m.

R. PUSILLA, nobis, (loc. cit.) Pl. I, Fig. 6.

This delicate little shell, from Balapitiya in Ceylon, is not nearly so inflated as the preceding, its form being oval instead of ventricose, composed of five whorls, the spire more acute and the suture more distinct; it is of a milky white colour with a brown apex, marked on the last whorl with two, somewhat indistinct, narrow brown stripes; it resembles *R. Ceylonica* in being almost smooth, only slightly marked with the lines of growth.

Long. 6, Diam. 4, Alt. apert. $3\frac{1}{2}$, Diam. apert. $2\frac{1}{2}$ m.m.

Fossarus Stoliczkanus, *n. sp.*, Pl. I. Fig. 10, 10a.

T. parva, alba, oviforme-oblonga, sub-crassa; spirâ sub-obtusa, anfractibus tribus, multi-carinatis, interstiis striis incrementi minutissimis decussatis; anfractu ultimo peramplo, obliquo, ample et profunde umbilicato, umbilico intus ruguloso; aperturâ semicirculari, labro ad marginem crenulato, uniforme curvato, intus sulcato, labio crassiusculo, recto, lævi. Long. $4\frac{3}{4}$, Diam. $3\frac{1}{2}$, Alt. apert. $3\frac{1}{2}$, Diam. apert. $1\frac{3}{4}$ m.m.

Rare, S. Province, Ceylon,—Bombay (Dr. F. Stol.)

Fossarus insignis, *n. sp.*, Pl. I. Fig. 9, 9a.

T. tenuis, alba, sub-turbinata; spirâ per-exserta, apice acutissima, suturâ sub-canaliculata; anfractibus 7, convexiusculis, confertim carinatis, carinis spinulose aut granulose rugosis; ultimo anfractu ventricosus, ad aperturam semilunarem dissoluto, profunde ac

anguste umbilicato; labro acuto, crenulato seu minute fimbriato; labio tenui, lævi, paululum curvato.

Long. $6\frac{1}{4}$, Diam. 5, Alt. apert. 4, Diam. apert. $2\frac{1}{2}$ m.m.

Rare; S. Province, Ceylon.

Syrnola dubiosa, *n. sp.*, Pl. I, Fig. 19,

T. parva, angusta, subulata, lævis, vix perforata; anfractibus 10, planis, suturâ distincta, paulo impressa, simplici junctis; aperturâ parva, subovata, postice acute angulata, antice latiuscule sub-rotundata; columellâ paululum reflexa, obliqua, tenui, uniplicata.

Long. 7, Diam. 2 m.m.

This small species closely resembles *S. attenuata*, A. Ad., but can be distinguished by its only having ten whorls, by its slightly less acuminate form, by the absence of any transverse striation and by the unusually indistinct plait on the columella. The aperture is contracted posteriorly and rounded at the base.

Sands at Pooree, Bay of Bengal, (Raban).

Niso pyramidelloides, *n. sp.*, Pl. I. Fig. 14.

T. angusta, subulate acuminata, nitens, lævis; anfractibus quatuordecimis, planulatis, anfractu ultimo ad basin sub-angulato; suturâ sub-indistincta; anfractibus fasciâ castanea ad suturam inferiorem cinctis, ultimis quinque supra medium fascia simili notata; aperturâ compresse sub-rhomboidæ, antice et postice angulata, marginibus tenuibus.

Long. 11, Diam. 3. Alt. apert. $2\frac{1}{2}$, Diam. apert. $1\frac{1}{2}$ m.m.

This species cannot be confounded with any other of the genus in form, as also in the manner in which the whorls are belted; it bears considerable analogy to one or two known *Pyramidella*, such as *P. pulchella*, Ad. &c. The second brown belt, showing only on the last five whorls, is a remarkable characteristic; it is also the narrowest and most contracted species of the genus yet described.

Sands at Pooree, Bay of Bengal, (Raban); Malacca and Penang, dredged in 3 fathoms on sandy ground (Dr. Stol.)

LEPTOCONCHUS ROBILLARDI, Lién. Pl. I. Fig. 1.

Journ. de Conch. 1870, XV. p. 305.

This handsome and peculiar species reminds one, somewhat, of

certain species of *Coralliophila*; the shell is most remarkably produced at the base into a long, pointed canal, with a deep furrow reaching from its extremity to the narrow umbilicus, the upper whorls are perfectly flat and hidden by a callosity, the body is somewhat flattened and dilated, roughly and handsomely cancellated, with the interstices more or less fimbriated.

Long. 21, Diam. $13\frac{1}{2}$, Alt. apert. $18\frac{1}{2}$, (extra canalem $12\frac{1}{2}$), Diam. apert. $8\frac{1}{2}$ m.m. Mauritius.

Mangelia bicinctula, *n. sp.*, Pl. I. Fig. 15, 15a.

T. turrilo-fusiformis, solidula, nitida, fusco-albida, supra et infra indistincter griseo-fulve cincta; anfractibus 6, ad suturam anguste constrictis, sub-cylindricis, ultimo basi attenuato, distincter castaneo tincto, canali recto, brevi, latiuscule desinente, anf. omninis costulis crassiusculis transversis, rectis, et striis spiralibus tenuibus et confertis ornatis; aperturâ angusta, postice angulata; labro externe valde incrassato, albo, postice vix emarginato, intus indistincter crenulato, labio tenuissimo, haud distincter designato, antice paululum ruguloso.

Long. 13, Diam. $4\frac{1}{2}$, Long. anfract. ult. $8\frac{1}{2}$, Alt. apert. $6\frac{1}{2}$, Diam. apert. 2 m. m.

S. Province, Ceylon.

Helix Newtoni, *n. sp.*

This small species is composed of 6 flattened whorls, much compressed, bearing above considerable resemblance to our common English *H. rotundata*; suture very distinct, somewhat excavated; aperture small, nearly as high as broad, somewhat angular; margin of the lip simple; deeply umbilicated, reminding one a little of certain species of the genus *Solarium*, increased by its most striking characteristic, a row of crenulated, fold-like, closely approximated striæ, which surround the umbilicus and extend over about two-thirds of the base. Very rare, Pouce Mt. Mauritius.

Helix (Discus) LeVieuxi, *n. sp.*

This beautiful little species, which is named after Mr. Le Vieux of Mauritius, possessor of an extremely fine collection of shells

from these seas, is composed of 8 closely wound whorls, moderately elevated and turritid, covered at regular intervals with very strongly developed transverse ribs which fade away towards the obtuse apex, these give it a most interesting appearance under the lens, they are continued on the base of the last whorl, where they almost completely disappear towards the centre, but appear again round the umbilicus; the aperture is very small, the last whorl angular. Alt. $3\frac{1}{2}$, Diam. 2 m.m.

Rare; Mahé, (Seychelles).

Helix (Conulus) sub-turritula, n. sp.

This small, horn-colored shell is composed of 7 turritid, rapidly elevated whorls, divided by a distinct suture, no sculpture is discernible, even under the lens; apex somewhat mammillated; last whorl strongly keeled, its base nearly flat, imperforate; aperture angular, about as high as broad. It can be distinguished from the Indian species of the same type, by its flatter base and less convex whorls. The animal is black mottled with yellow; it was found in a damp ravine at Mahé (Seychelles), at about 800 ft. above the sea. Alt. 4, Diam. $4\frac{1}{2}$ m.m.

Gibbulina Adamsiana, n. sp., Pl. I. Fig. 17.

Testa cylindrico-fusiformis, alba, vix rimata, teniola, sub-flexuose costulata, costulis fere rectis ac validis; anfractibus 8, cylindricis, planatis, gradatim accrescentibus, ultimo regulari; spirâ obtusa, suturâ impressa; aperturâ sub-angulatim quadrata, dente parietali parvo munita, labro reflexo, curvato, labio columellari recto. Long. 18, Diam. max. 6, Alt. apert. 5, Diam. apert. $4\frac{1}{2}$ m.m.

Very rare, near Curepipe, Mauritius.

This very distinct, though rare, species most resembles the remarkable *G. Nevilli*, H. Ad. and *G. Dupontiana*, (Journal, Asiatic Society, Vol. xxxix, page 411); it is easily distinguished from both by the difference in form and sculpture, from the former, also, by only having 8 whorls, from the latter by the almost entirely concealed, instead of very open, umbilicus.

Cataulus Nietneri, n. sp., Pl. I. Fig. 7, 7a.

T. parva, sub-fusiformis, vix perforata, apice sub-obtusa; supra pallide-straminea, infra virescente grisea, et irregulariter albido

strigata; anfractibus 6, convexiusculis, primis duobus vel tribus lævigatis, ceteris transversim costulato striatis, ultimo antice sub-applanato, ad basin acute carinato; aperturâ circulari, peristomate albedo, incrassato ac reflexo, intus ad basin anguste canaliculato. Operculum normale.

Long 11, Diam. $4\frac{1}{4}$, Alt. apert. 4, Diam. apert. $3\frac{1}{2}$ m. m.

This is the smallest species of the genus as yet described, it is also composed of fewer whorls, the last being peculiarly somewhat flattened; the sculpture is obsolete on the first three, just discernible on the fourth and very distinct on the last two whorls; the notch at the base of the peristome is less conspicuous than in the other species of the genus; the shell is of a straw colour, irregularly marbled and streaked with greenish zigzag markings; the operculum is of a light horny texture composed of about 6 whorls. We have named this interesting new *Catantulus* after Mr. Nietner of Ceylon, who has so largely contributed to the knowledge of the Insects of that island.

***Helicina Theobaldiana*, n. sp., Pl. I. Fig. 8, 8a.**

T. parva, depresso-conica, fulvo vel luteo rufescens, sub-obsolete striata; anfractibus quinis, supra convexiusculis, ultimo ad peripheriam acute carinato, basi tumido ac lævigato; carinâ luteola; aperturâ semilunari, paulo obliqua, labro reflexiusculo, paulo dilatato ad peripheriam sub-angulato; labio calloso, albedo; columellâ brevissima. Operculum tenue, minute et confertim granulatum, pallide glaucum, margine paululum fusce-rubro tinctum. Alt. $4\frac{1}{2}$, Diam. maj. $4\frac{1}{2}$, D. min. 4 m. m.

This small species has no peculiar characteristics, it varies from a dark rufous brown to a pale straw colour; out of some hundred specimens procured, not a single one had the whorls banded. In height it is tolerably constant, 4- $4\frac{1}{2}$ m. m., but it varies considerably in the breadth, one variety being about $7\frac{1}{2}$, another 6 and a third (the rarest of all) as high as broad; it somewhat resembles a species from Tonghoo (? *crocina* Bens. apud Theobald), it can be distinguished by the smoother surface, by the absence of stripes, by the tumidity of the base, and by the greater development of the callosity. It also is very close to *II. Nicobarica*, Phil.

from the Nicobars, indeed so much so, that some specimens are barely distinguishable, the minute spiral sculpture of the latter being almost the only constant difference. Abundant at the Seychelles, on the ground amongst decaying leaves, &c.

Nucula Rabaniana, *n. sp.*, Pl. I. Fig. 11, 11*a*, 11*b*, 11*c*.

T. parvula, perobliqua, valde inæquilateris, crassa, moderate inflata, nitida, pallidula, radiatim obsolete confertim lineolata et concentrice striata, striis distantibus, sub-obsolete; parte antica valde et angustatim producta, postica brevi et abrupte truncata; margine supero, aut dorsali, utriusque valvæ eleganter et crasse granulato; margine interno valvarum minute crenulato; cardo dentibus validis antice 23, postice 7, instructus, foveâ ligamentali angustissima separatis. Length 6, breadth $4\frac{1}{2}$, thickness 3 m.m.

In shape somewhat resembling *N. Paytensis*, A. Ad., (var. of *N. crenulata*, A. Ad., apud Hanley), the posterior extremity a trifle more produced, the sculpture is, however, very different.

The concentric grooves in the present species are very indistinct, often becoming altogether obsolete, there are only traces of radiating striation; the striking feature, however, is the two peculiar rows of oblique granules (nine in each row) on the anterior dorsal margins; the inner margins are unusually strongly crenulated; the teeth very long and sharp, especially the seven posterior ones.

Pooree, Bay of Bengal, (Raban). Dr. Stoliczka dredged near Penang in 4 fathoms a few specimens of what appears to be this species. They are a little more elongated than those from Pooree.

Pisidium Clarkeanum, *n. sp.*, Pl. I. Fig. 4, 4*a*, 4*d*.

T. ventricosa, oblonga, valide inæquilateris, pallide fulva; postice elongata ac rotundata, antice rotundate truncata; umbonibus prominentibus ac tumidis; superficie concentrice confertim striata, striis tenuibus, regularibus.

Length $5\frac{1}{2}$, breadth from the umbones $4\frac{1}{2}$, thickness $8\frac{1}{2}$ m.m.

I am indebted for this species to my friend Mr. G. R. Clarke; it is tolerably abundant in tanks &c., close to the Damuda at Moiskara. I have lately received a very similar shell from Chittagong, only differing by its smaller size, less produced posterior end and less tumid umbones; it may prove to be specifically distinct. I have

also a third closely allied species before me from the neighbourhood of Bombay, this differs, however, materially from the two former by its more produced and sub-angulate anterior end and by the more central position of the umbones &c., it is smaller than either of the preceding forms. A fourth Indian species in my collection from the Himalayas is very distinct from any of the above, it will probably prove to be *P. paludosum*, Hutt. (Journ. As. Soc. Bengal, xviii, p. 649).

Cryptogramma Arakana, *n. sp.*, Pl. I. Fig. 16, 16a.

T. oblonga, subventricosa, alba, maculis castaneis pervariabile sparsim flammulata ; lunulâ angusta, attenuata, parte anteriore fusca ; umbonibus prominentibus, paululum antice positis ; latere postico angustato, oblique truncato, ad extremitatem rotundate obtuso, antico rotundato ; superficie valvarum costulis concentricis et radiantibus ornata, primis in parte media, alteris antice et postice multo fortioribus et squamulosis.

Length 14, breadth from the umbones $13\frac{1}{2}$, thickness 9 m.m.

Dredged alive by Mr. H. F. Blanford in Arakan, to whom we are indebted for specimens ; single valves are abundant on the sands in the S. Province, Ceylon ; it was also found by Dr. Stoliczka at Penang and Singapore, being extremely common at both localities. The sculpture of this handsome little shell is very peculiar, in the centre it is strongly latticed with close set ribs, which form, where they cross one another, large, nearly round granules ; at the extreme anterior side, there are no decussating ribs, but the transverse ones are continued by 4 or 5 rows of broken up, rugose granules ; the posterior side, beginning at about one-third of the breadth of the shell, has somewhat similar rows of granules, somewhat distant, the granules themselves being, for the first 7 or 8 rows, erect and foliaceous, almost spoon-shaped.

CYPRICARDIA SPATHULATA, Souv. Pl. 1, Fig. 20.

Jour. de Conch. pl. ix, f. 2.

A specimen of this interesting species was found by Dr. J. Anderson at the Andamans, and presented by him to the Indian Museum at Calcutta ; it was buried in a slate-colored rock in



For explanation of figures see p. II.